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THE DIAND SOCIO-ECONOMIC IMPACT MONITORING PROGRAM: ITS ORIGINS, METHODOLOGY AND DATA VERIFICATION

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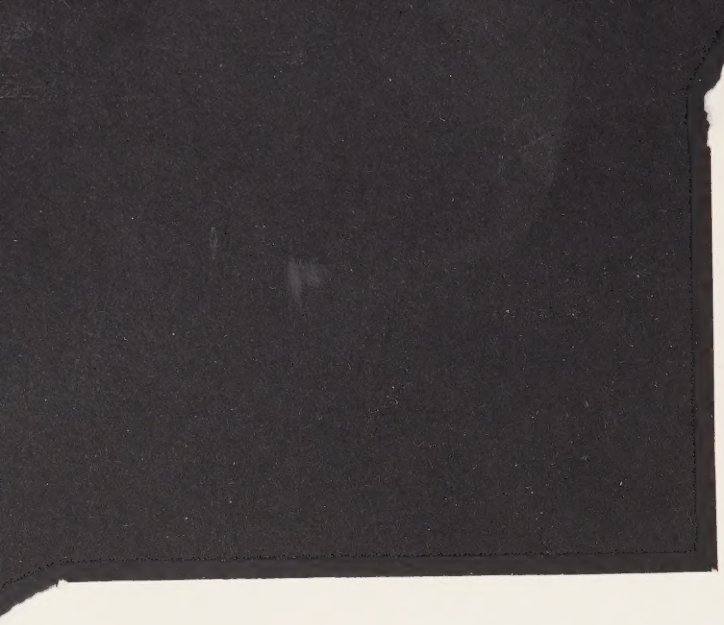

THE DIAND SOCIO-ECONOMIC IMPACT MONITORING PROGRAM: ITS ORIGINS, METHODOLOGY AND DATA VERIFICATION

Report No. 1-84

DIAND NORMAN WELLS MONITORING REPORT SERIES

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PREFACE

The Norman Wells Oilfield Expansion and Pipeline Project is the first major hydrocarbon development in the North. As such, it offers unique opportunities to observe at first hand the effects of a development project on the environment, the economy and the social fabric of the region. There have been a number of extensive public review processes dealing with major development project proposals, e.g., the Berger Inquiry, and the Environmental Assessment Review Panel (EARP) on the Norman Wells Project itself, which have debated extensively the possible effects of such projects. There have, however, been relatively few opportunities to observe the effects at the time the project is in the construction phase, the time of most likely disruption in a region.

Accordingly, the Department of Indian Affairs and Northern Development mounted a monitoring program with the objective of identifying the impacts, negative and positive, of the Norman Wells Project as development proceeded. The four Mackenzie Valley communities closest to the project are Norman Wells itself, Fort Norman, Fort Simpson and Wrigley. Against the background of a database survey carried out in 1982 intended to provide the picture "before" the start of major construction, the DIAND Norman Wells Socio-Economic Impact Monitoring Program has developed a comprehensive battery of data on certain selected economic and social factors through the conduct of annual field surveys.

This program is, we believe, the first impact monitoring program of its kind, covering as it does the community situations "before", "during" and "after" project construction. The program is under the direction of Professor R.M. Bone of the University of Saskatchewan. Results are being presented in a series of technical reports pertaining to each year for which the survey has been carried out. The present report is designed to provide a comprehensive picture of the program findings from 1982 through 1984. A full list of published reports is presented in the Bibliography.

John Hucker
Director General
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1. OBJECTIVES

Following a brief account of the emergence of project assessment and monitoring, two key items of the Norman Wells Socio-Economic Impact Monitoring Program are discussed. They are: field methodology and coding/data verification. They represent important elements in the data gathering aspects of the Norman Wells Socio-Economic Impact Monitoring Program.

Since little information is published on these communities each year, much of the DIAND monitoring effort is spent collecting basic data. Almost all of this data is obtained from annually conducted community questionnaires. Because of the importance of data gathering, clarification of our methodology and data verification form major components of this paper. Information about the methods used to collect the data, the value of using secondary information, data verification and overall survey coverage are discussed in this report.

The purpose of the DIAND monitoring effort is to provide meaningful information about the economic and social impact of the project upon the four communities. Direct effects, such as the number of workers, is relatively easy to collect and measure in a questionnaire. On the other hand, indirect effects of the Norman Wells Oilfield Expansion and Pipeline Project upon the social fabric of communities are much more difficult to identify and measure in a questionnaire format. For this reason, the DIAND monitoring team is supplementing its questionnaire-generated data base with administrative statistics, qualitative information, and historical information.

2. THE EMERGENCE OF IMPACT STUDIES

During the 1960s, concerns were raised about the negative effects of economic growth upon the environment. The environmental movement grew out of these concerns and this movement challenged the concept of unlimited economic growth. Their main objective was to protect the environment from industrial pollution.

In Canada, federal and most provincial governments responded to these environmental concerns by requiring that companies submit development plans for assessment. For those proposals associated with potential negative environmental impacts, the general procedure is to hold public hearings and then a government-appointed panel considers both the company development proposal and the documentation presented at the hearings. The panel then makes a series of recommendations. The first recommendation is whether or not the development plan should be approved. If it is approved, then the panel assesses the need for changes in the proposal to correct demonstrated or perceived weaknesses which would harm the environment or man.

The federal government established the Federal Environmental Assessment Review Office (FEARO) to administer its assessment programs. These programs, known as the Environmental Assessment and Review Process (EARP), were announced by the federal cabinet in December 1973. The purpose of EARP is to determine in advance the potential environmental impact of federal projects.

The federal assessment process has evolved over the past ten years

or so. At first, these EARP assessments were only concerned with environmental issues. Yet at the public hearings, strong opposition to the proposal often came in the form of socio-economic concerns expressed by people living in the area subject to the proposed development. The government-appointed panels often had more difficulty responding to economic and social questions than the environmental ones. While Lang and Armour (1981) discuss this topic at some length, the socio-economic issues are frequently complex and controversial. For example, in the Cluff Lake Board of Inquiry, some argued against the proposed uranium mine at Cluff Lake because they feared that Saskatchewan uranium would be used to produce nuclear bombs (Bayda, 1978: 288).

In northern Canada, assessments of development proposals have included the Mackenzie Valley Pipeline, the Alaska Highway Gas Pipeline, the Shakwak Highway, Eastern Arctic Offshore Drilling, Lancaster Sound Offshore Drilling, Arctic Gas Pilot Project, Mackenzie Delta Gas Gathering System, Slave River Hydro, and the Norman Wells Oilfield Expansion and Pipeline Project. Of these nine project assessments, eight were done by EARP and one, the Mackenzie Valley Pipeline, was done for the Department of Indian Affairs and Northern Development by Thomas Berger.

The Mackenzie Valley Pipeline Inquiry represented the first major assessment program in the Canadian North. In these hearings, local social and political issues received as much (and sometimes more) attention than environmental issues. In this way, the Berger Inquiry dramatically widened the process of environmental assessment to give a prominent role to economic, political and social issues. Unlike the

early EARP hearings, the Berger inquiry dealt with issues which did not directly affect the project proposal. The most important such issue was native land claims.

The Mackenzie Valley Pipeline inquiry altered the nature of project assessments by firmly establishing a major place for economic, social and political issues. The value of socio-economic issues in the assessment process is substantiated by the fact that the rejection of at least three proposals has involved major potential socio-economic impacts. The three rejected proposals are the Mackenzie Valley Pipeline (1977), the Roberts Bank Port Expansion (1979), and the Uranium Refinery at Warman, Saskatchewan (1980).

While the assessment process examines potential problems, the next step is to examine the actual performance of a development. While the proponents are sometimes required to report on the effect of their project, such reporting tends to focus on direct impacts.* In the Report of the Environmental Assessment and Review Panel for the Norman Wells proposal, a recommendation was made to monitor economic and social matters so as to identify and measure project impacts (75, 77, 79 and 80). While the mechanism and techniques for undertaking such investigations were not identified by the Panel, its request is a natural outcome of the need to record major impacts. The utility of such information is (1) to record and measure the impact of the

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*In a discussion of techniques for assessing environment impacts, Mitchell stresses the fact that existing techniques can measure direct impacts relatively easily but these techniques (particularly checklists, overlays and matrices) fail to measure most indirect and interactive impacts. For further discussion, see Mitchell, pp. 233-240.

development upon local communities, (2) to mitigate negative socio-economic impacts of the current project and (3) to allow a more thorough assessment procedure of future development proposals because of a more detailed understanding of the indirect and interactive impacts.

3. THE DIAND SOCIO-ECONOMIC IMPACT MONITORING PROGRAM

Monitoring of the socio-economic impacts of the Norman Wells Oilfield Expansion and Pipeline Project by geographers from the University of Saskatchewan for the Department of Indian Affairs and Northern Development began in the summer of 1982. The need for such a program stemmed from the desire of DIAND to be well-informed of major demographic and socio-economic changes in the four communities located along the pipeline. Such information is necessary to keep track of significant impact changes in the four communities. Potential impacts were identified in the EARP hearings. These included the risk of "boom and bust" conditions, increased inflation, disruption of traditional economic pursuits, the effects on the native society of a temporary and long-term increase in numbers of white residents, and the effects of new economic opportunity upon the native people (Report of the Environmental Assessment and Review Panel, Norman Wells Oilfield Development and Pipeline Project,* pp. 49 and 59).

The general approach to monitoring annual socio-economic changes in these four communities was to identify key variables which would reflect the major areas of concern. These areas are (1) population and demographic changes, (2) economic, business and employment changes, (3) consumer shopping changes, (4) attitudinal changes towards development, and (5) social impacts.

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*Hereafter referred to as Norman Wells EARP Report

The task of monitoring these variables in the four communities was complicated by the paucity of information of these topics. Since issues of benefits to natives and northerners were top concerns of DIAND, the data must be collected so that the information can be organized by northerner/southerner and native/non-native at the community level. With no annual data collection mechanism operating in these four communities, the DIAND monitoring program had to concern itself with the actual collection of statistical information on these five variables. The main source of DIAND data comes from an annual questionnaire survey. Other data comes from secondary sources, such as the 1981 census and GNWT records. The GNWT records are particularly helpful in areas of social services and renewable resources. In addition to the statistical information, efforts have been made to collect qualitative information from newspapers (Native Press and North), from public documents (EARP assessment report), and from local residents.

The framework for this five year monitoring program consists of three phases. Each phase is assumed to represent a distinct set of socio-economic conditions. These conditions reflect the nature of the Norman Wells construction project and "normal" local economic conditions. The three phases are: (1) pre-construction; (2) construction; and (3) post-construction. Since it is assumed that each phase will have a distinct socio-economic character, a mega project is expected to have a varied effect upon the economic and social conditions in these four communities.

Some changes may be considered beneficial to the residents of these communities while others may be harmful. For instance, the

businessmen in Norman Wells, Fort Simpson, Hay River and Yellowknife were concerned that "if the Norman Wells project is not followed by other major industrial developments, a "Bust" situation could development (REAP, 1981: 49). This group supports the idea of "more" development. Another northern group voiced a different type of concern at the EARP hearings: that new work opportunities (construction wage employment) will be attractive to northerners who are presently engaged in hunting and trapping. After the construction phase is completed, these trappers may have difficulty returning to the land because ". . . some trappers [are] without adequate equipment or funds to resume trapping" (Norman Wells EARP Report, 1981:49). This group is much less supportive of northern development.

From these two examples, it is clear that certain concerns are associated with particular socio-economic groups and that sometimes one group's concerns conflict with those of another. The EARP report described the major socio-economic division of the northern population as "the Dual Society" (Ibid. 1981: 59). This dual or traditional native society . . . seeks to live partly in the wage economy and partly on the land" (Ibid. 1981: 59). In sharp contrast, most northern whites live in the modern economy, the so-called wage economy. The existence of traditional and modern societies makes the complex nature of determining "positive" and "negative" impacts of the Norman Wells construction project even more difficult because each group tends to view development differently. The approach attempted in the DIAND monitoring program is (1) to present the facts and (2) to interpret them in a comparative and/or historic manner. For the most part, a base level for each

community provides a comparative approach while use of census and GNWT data provides the basis for an historical approach.

The first phase, pre-construction, provides a base level from which major changes in the socio-economic variables can be measured and then analyzed. In the case of Norman Wells, the base year is 1981 because the construction work associated with this project actually began in early 1982. In the other three communities, 1982 serves as the base year. The main effect of the construction project in Fort Norman, Wrigley and Fort Simpson is linked to the laying of the pipeline which began in January 1984.

Since the DIAND data gathering program began in 1982, the base year for Norman Wells is reconstructed from secondary sources, namely the 1981 census and GNWT records. In addition, a historical profile of some variables, such as population size, is being created out of such secondary sources. Such profiles provide some insights into the long-term trends and such a trend line allows for a "better" measurement from the base phase to the construction phase.

4. BASIC FIELD DATA COLLECTION METHODS

The DIAND monitoring program is designed to describe and analyze the effects of the Norman Wells Oilfield Expansion and Pipeline Project upon four communities—Norman Wells, Fort Norman, Wrigley, and Fort Simpson. Since secondary data was not available for a wide variety of socio-economic concerns, a field data collection system was devised. This system consists of two questionnaires: (1) a household survey and (2) a business and public services survey. These data provide the main source of quantitative information on the four communities. In addition, a project impact questionnaire was attempted in the summer of 1984.

The two questionnaires are administered in the following fashion. The Business and Public Services Survey occurs annually. Each firm or public agency is approached and invited to participate in this survey. A questionnaire is then completed by the surveyor from the responses provided by the owner or manager.

The first annual survey took place in 1982 and the final one is planned for 1986. A research team from the University of Saskatchewan undertakesthe questionnaire interviews. Local residents are hired to assist the research team. The survey takes place in the summer, normally in June and July.

Because a large number of firms working at Norman Wells are based in the south, Esso Resources agreed to send our business questionnaire to its contractors and to send us the completed forms. This procedure

has provided a great deal of information on southern firms and their commuters which would not have been obtained through surveys of the four centers.

The Household Survey is conducted every second year beginning in 1982. The second household survey took place in 1984 and the "post-construction" survey in 1986. In 1982, each household was visited and the head of the household was invited to participate in this monitoring survey. In 1982, four members of the University of Saskatchewan took part in these community surveys and they were assisted by eight local residents. At each center, the local councils were asked to suggest suitable candidates to work with our team. In three communities, Fort Norman, Wrigley and Fort Simpson, a local resident fluent in Slavey and a member of the DIAND research group undertook the native household surveys. In some instances, the local person also served as a Slavey-English translator.

Further details about the 1982 and 1983 surveys in these four communities can be obtained from the DIAND Norman Wells Monitoring Report Series number 2-83, Database and Survey Discussions Report and from "Socio-demographic Field Investigations for the Norman Wells Database Project," Proceedings of Northern Population Workshop IV, edited by Kenneth de la Barre, 1983.

The conducting of community surveys is a much more sensitive matter than business ones. Asking personal questions is a delicate matter under the best of circumstances. However, this matter is compounded by the political realities of the MacKenzie Valley communities. The struggle for a satisfactory land claims settlement by

native peoples who are represented by the Dene Nation and the Metis Association has affected northern people's attitudes and actions towards the Norman Wells Project.* This fact coupled by the large number of "surveys" that have been undertaken in the community has complicated the conducting of household questionnaires. In spite of these special conditions, the response to our questionnaires has been very high. We believe there are three reasons for this high response: (1) because the survey was being conducted by DIAND, residents had confidence in its usefulness and in its objectivity, and (2) because the information would be returned to the communities for their use. We also discovered that, even though all four communities had undergone at least five or six local surveys, few of the results are available. In the case of the DIAND study, the emphasis on basic community elements, such as population size, labour force characteristics and demographic structure, has some value to the local councils in planning for a wide variety of community activities. For this reason, a computer printout of frequency of responses to the questionnaires has been sent to each council for their use. The publication of the public reports which interpret these responses is expected to be of further use to these communities.

While the nature of this monitoring study called for a series of questions on economic and social matters, many of the social issues were

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*Midway through the 1984 survey, three band councils, Fort Norman, Fort Simpson and Wrigley, passed resolutions which stated their opposition to the DIAND survey. At the Drum Lake meeting in July 1984, an agreement-in-principle was reached between the Chiefs and officials of DIAND. Shortly afterwards, the Fort Norman Band Council passed another resolution, allowing the 1984 survey to be completed. By mid-September, no word has been received from the other two bands.

deemed too sensitive. For example, the issue of alcoholism and drug abuse was not addressed in the household survey even though the EARP report identified this area as a "potential" social problem associated with the Norman Wells Project. Besides the issues of obtaining local council's approval for such questions, there are several reasons for not asking such questions of local residents: (1) such sensitive questions might not be answered fully, partly because of the problem of stating the social problem in the questionnaire and partly because of a reluctance to answer such personal questions, and (2) the inclusion of such questions would have, in our judgement, reduced the number of households prepared to participate in this questionnaire interview.

Alternative sources of information on sensitive social issues provide the possibility of creating a "social" database. These sources include: (1) the use of federal and GNWT data to create longitudinal profiles of selective social variables by communities; (2) the use of qualitative information to describe and analyze specific social problems in a community and to determine how they relate to the Norman Wells Project. Qualitative information would include the use of local newspapers, including the Native Press, and policy statements of native organizations, such as the band councils, the Dene Nation and the Metis Association, company publications, such as Esso North, and governments. Minutes of local councils and committees, such as the Project Coordination Committee, form another source of project-oriented information; and (3) the use of background material to provide both an historical overview and local information. Such materials help provide a general historical framework and recent local information. These

materials include a number of academic books and papers, the Berger report, the EARP report on the Norman Wells project, and the socio-economic baseline reports of Esso and IPL. Another source of background material is obtained from interviews and conversations with local residents who are knowledgeable and concerned about the community and its people.

An additional set of "impact" questions was added to the 1984 Household questionnaire. In this open-ended question, the respondents were asked to list both positive and negative social impacts, such as increased alcohol use, as well as indicate their overall assessment of the project's impact on their community. This question consisted of the respondent marking the degree of the impact on a Likert scale (a 5 inch line with a negative impact label at the left end of the line and a positive impact label at the right end of the line). He or she was then asked to list and rank the negative and positive factors causing the respondent to hold this view of the Norman Wells Project. From this list, an appreciation of the major changes caused by the construction project could be described and analyzed.

In addition to the above impact question on the 1984 Household questionnaire, a specially designed questionnaire called "Project Impact Survey 1984" attempted to record the impact of the Norman Wells Project upon each of the four centers. This questionnaire consisted of 18 impact factors. The objective of this questionnaire was to have each respondent compare the 18 impact factors. Later we would analyze the results by means of a statistical technique called multidimensional analysis. Unfortunately, the 24 residents approached at Norman Wells

and Fort Norman found the questionnaire long and complex. Consequently, only five of these questionnaires were completed when the research team decided not to continue with the Project Impact Survey 1984. If this approach is attempted in the future, some modifications are necessary to ensure a better response.

5. ADMINISTRATIVE RECORDS AND REPORTS

A wide variety of administrative records and reports are available on the four communities. The two GNWT departments identified for an initial assessment of their statistics for monitoring the Norman Wells project are Social Services and Renewable Resources. These two GNWT departments deliver programs to disadvantaged people and to hunters and trappers respectively. These two groups represent important "social" areas in our monitoring program.

The Department of Social Services has six programs which are of interest to our monitoring activities. These six programs are:

1. Alcohol and drug services,
2. Family and children's services,
3. Community Correction Services,
4. Institutional Correction Services,
5. Financial Assistance Services,
6. Social Services to the Aged and Handicapped.

Care is required to properly interpret these administrative records because, at the community level, variations in the amount and individual allocation of these services can be affected by community-based social services officers rather than by the needs of the community. Thus, these statistics can vary, not because of social changes, but because of changes in the approach and/or method of the particular social services officer involved. For example, social

assistance is provided to persons who demonstrate financial difficulty in meeting basic needs for food, clothing, shelter and other needs as defined by the Social Assistance Ordinance and Regulations. Yet the interpretation of this ordinance and its regulations provides considerable scope for variation in the individual dispersement of these services by social services workers. A similar problem occurs when there is a shift in policy as to the procedures for determining "need".

Generally, administrative records are not well suited for research because they were not collected in a "careful" and "uniform" manner. For example, health care records while not designed to measure population size of a community or region are often used for that purpose. These figures are affected adversely by (1) the slowness in correcting the records, i.e., removing the names of persons who have permanently left the community or who have died and (2) the magnification of such errors in communities with "small" population. Even Statistics Canada warns users of the 1981 census that their data are less accurate at the enumeration area level than at the provincial level. A more complete discussion of administrative records used for research purposes and the problem of using census data for small populations, such as a community with a population size of 500 inhabitants or less, can be found in Proceedings of Northern Population Workshop I edited by Paula Weston (Arctic Institute of North America, 1977) and in R. M. Bone, 1981, Problems of Secondary Data Sources for Demographic Studies: A Case Example of the Yukon Health Care Insurance Plan Records (Montreal: Committee on Northern Population Research).

One potential cost of the Norman Wells Project identified by the

was an increase in social problems in local
se concerns, based on the experience of the
Trans-Alaska Oil Pipeline Project included
breakdown, juvenile crime, child neglect, suicide,
sion, and venereal and other communicable diseases.
ed that (1) there are federal and GNWT agencies
enting or alleviating such social problems and (2)
types and levels of current and projected social
problems was not available. The EARP report on the Norman Wells project recommended preparation of "an adequate data base against which project-related impacts can be identified and measured" (Norman Wells EARP Report: 1981:63.)

The GNWT Department of Renewable Resources is responsible for collecting information on hunting and trapping, two key activities of concern to native peoples. In 1983 this Department (Strategic Plan, p. 5) expressed concern that "the fur harvest may decrease over the next two or three years in response to declining prices and increased activity from anti-trapping groups." In this same report, a land use conflict with industrial development is discussed and this competition for the same land base is expected to (1) create habitat disturbances, (2) increase access to fur and game animals by building new roads, and (3) improve efficiency in renewable resource harvesting resulting from better equipment purchased through wages (p. 6).

The Norman Wells Project is expected to change some wildlife habitat with the construction of the oil pipeline. These changes are expected to be both negative and positive. The pipeline route does occupy some furbearer habitat. On the other hand, improved access and the

grass-seeded right of way (suitable grazing land for big game, such as moose and deer, and improved habitat for small game, which can lead to increased population of furbearing predators, such as fox and marten) is an improvement in the habitat. For these reasons alone, discussions with officers of this GNWT department will provide important background information and historical data on fur sales, price and number of trappers. This information plus the field collected data will help us understand changes in the trapping and hunting industry in terms of the impact of the Norman Wells Project.

It will also help us respond to the following statement in the EARP report (p. 49):

> A third concern is that new work opportunities will be attractive to northerners who are presently engaged in hunting and trapping. Active trappers in the area would welcome additional employment to maintain trapping activities. Some individuals may choose to withdraw temporarily from trapping; others may work part time at both activities. After the construction phase is completed, employment will decline and some workers may return to trapping for a living. Experience has shown that temporary absence from trapping leaves some trappers without adequate equipment or funds to resume trapping. The Panel recommends that the GNWT broaden its program of assistance to trappers who seek to become re-established in trapping after a period of wage employment on the project.

Arrangements have been made with two GNWT departments, Social Services and Renewable Resources, to allow certain administrative data and reports to be used in this monitoring program. These arrangements were finalized in February 1984 through the joint efforts of John Mar, Federal Coordinator for the Norman Wells Project and Darryl Bohnet,

Territorial Project Coordinator for the Norman Wells Project. In May and June 1984, a member of the DIAND monitoring team worked directly with these two branches in selecting data suitable for measuring social change and hunting-trapping change. This investigation resulted in an assessment of selected data for monitoring social changes at the community level. The GNWT data have two important uses in our monitoring activities (1) provides community data not collected by the questionnaire approach and (2) provides an historic perspective for the construction period (1982-86).

6. CODING AND DATA VERIFICATION PROCEDURES

Following the conducting of the questionnaires, all of the responses must be coded, that is, prepared for entry into the computer.* Coding also requires verification because of the chance of mistakes in the coding work. Both coding and its verification represents major components of the DIAND monitoring program.

The internal data verification procedures are designed to identify and correct coding errors. Coding errors occur when the responses from the questionnaires are incorrectly transferred by hand to computer readable opscan sheets for input to the 360 computer at the University of Saskatchewan. Coding errors are identified by examining the computer data files and output of frequency tables for each question. For example, each community has a numerical code as follows: Norman Wells = 1, Fort Norman = 2, Wrigley = 3, and Fort Simpson = 4. In examining the number of business firms for each community in 1983, the expected number of businesses was not achieved. By hand counting the business questionnaires for each community, an exact figure was obtained and compared to the figure in the computer file. Once the error was detected, the corrective procedure was to match each firm in the computer by its business code or name with the one on the actual questionnaire. Once the incorrectly coded firm is found, its community code is changed

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*Further information on coding procedures can be found in Business and Household Survey Computer Code Book (1982). Code books for 1983 and 1984 are expected to be published soon.

on the opscan sheet. Then the information is changed in the computer data files and the program is rerun, producing a corrected database and a new set of frequency tables.* Errors similar to this took considerable time because of the difficulty in locating such an error.

Most coding errors are more restricted in their impact upon the data file. For example, males are coded 1 and females 2. If a coding error occurred, any number other than 1 or 2 would be readily observed on the hard copy print-out. If the coder indicated the "male" code for a female, this error would be more difficult to detect. However, the significance of this coding error is much more restrictive than miscoding a community on a household or business questionnaire because the latter type of error affects the location of all data in that questionnaire, i.e., places it in the wrong community.

Since both verification and coding of Esso-conducted questionnaires of southern based firms (which arrived in Saskatoon in the fall of 1983 and early 1984) altered the original number of responses from the field survey, there has been a regular updating of the data. The final updating effort took place in May/June 1984. By July 1984, the 1982-1983 data base was completed with the main coding errors removed and the Esso surveys entered into our database. These coding problems delayed the preparation of monitoring reports. However,

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*Minor errors are corrected on the opscan sheets but rather than rerunning all the opscan sheets, the changes are made to the main data set by using the video screen of a computer terminal.

these problems have been corrected and production of the monitoring reports for 1982/83 is underway.*

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*A series of reports were prepared based on the 1982 and 1983 field collected data. These reports are being updated using the July 1984 "final" databases for 1982 and 1983. The reader should be aware that the "final" databases do not alter the general pattern of the field collected databases nor the character of the earlier reports. Instead, they allow more precise and a more complete impact statement.

7. SURVEY COVERAGE

In 1982, two lists were obtained from the community councils—voters' lists and business licenses lists. Voters' lists were available for all four communities. Because of the recent (April 1982) plebiscite on the issue of a division of the Northwest Territories, the voters' lists were assumed to be a reasonably accurate portrayal of the actual number of persons residing in each center. New arrivals in the four communities were anticipated and we decided that only people who had lived in the community for one year or more prior would be enumerated by our household survey.* Residents listed on the voters' list but not found during our house-to-house survey proved to be more of a problem because of (1) those on summer holidays and (2) those residing outside of the confines of the built-up area of the settlement. Since those persons on holidays could be identified by neighbours, the major problem was the location of the other "missing" families. The solution to this problem was to use community resource persons to identify the "missing" names. This procedure, while time consuming, proved effective. A small number of these families had moved from this community to another one before we arrived. Others, however, never lived in the built-up area of the settlement. An analysis of the voters' lists, prepared by Sheena Bates, is found in the tables below.

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*The Business and Public Services Survey recorded all employees regardless of their length of residency. Such a list provides a measure of "in-migration" by the outside (southern?) labour force by occupation.

The enumeration of businesses proved to be simpler than the enumeration of households. Prior to our arrival in each center, we prepared a list of business and public services from two sources, NWT Data Book, 1981-82 and from the Northwestel telephone book. For Norman Wells and Fort Simpson, the existence of a list of firms with business licenses was helpful. A short discussion with the hamlet or village manager quickly identified any discrepancies between the various lists. Finally, a door-to-door enumeration of all commercial buildings took place.

The completeness of these two surveys (1982 and 1983) is illustrated by Table 3. The main conclusions are:

1. The 1982 DIAND Household questionnaire was taken to each dwelling in the built-up area of the community. Based on the community voters' list, our 1982 household survey included 59% of the population of Norman Wells, 69% of Wrigley, 75% of Fort Simpson and 86% of Fort Norman. The difficulty of locating residents in Norman Wells compared to the other three centers is due to the fact that the construction boom was in full swing in Norman Wells and many people were working long hours, some with two jobs.

2. The 1982 and 1983 DIAND Business and Public Services questionnaires have a much higher response rate. This response rate ranges from a low of 58% at Norman Wells and a high of 100% at Fort Norman. The higher rates are due to the relative ease of finding a business or public agency, i.e., they have a place of work and regular hours. At Norman Wells, the increase in small businesses (often a business operating from a residence) in 1982 and 1983 made it more difficult to locate the owner——in some cases, the business was so new that it did not have a business license.

Table 1

An Analysis of the 1982 Voters' Lists
for the Four Communities

Community	Total	Added to Voters' List	Left Prior to June 1982	Residing Outside of Community	Eligible Residents	Interviewed	
						No.	%
Norman Wells	124	32	3	1	152	90	59.2
Fort Norman	146	26	0	0	172	148	86.0
Wrigley	77	14	1	2	88	61	69.3
Fort Simpson	582	111	26	34	633	477	75.4
Total	929	183	30	37	1,045	776	74.3

Table 2

Residential Status of 1982 Interviewees on Voters
List but Not Surveyed as of March 1984

Community	No Change	Moved	Unknown	Total	% Moved
Norman Wells	45	12	5	62	19.4
Fort Norman	20	0	4	24	0.0
Wrigley	24	3	0	27	11.1
Fort Simpson	83	33	40	156	21.2
Total	172	48	49	269	17.8

Table 3

Enumerated Business and Public Services Compared to the Business Licenses, NWT Data Book and Telephone Directories

Community	Total	Added to Business List	Not in Service	Seasonal/ Unavailable Office Out of Town	Status Unknown	Eligible	Interviewed	
							No.	%
1 9 8 2								
Norman Wells	28	21	—	2	—	49	40	81.6
(incl. gov't)	47	21	—	2	—	68	59	86.8
Fort Norman	10	—	1	1	—	8	8	100.0
(incl. gov't)	24	—	1	1	—	24	24	100.0
Wrigley (incl. gov't)	10	—	—	—	—	10	9	90.0
Fort Simpson	63	9	19	—	—	53	51	96.2
(incl. gov't)	97	9	19	—	—	87	85	97.7
1 9 8 3								
Norman Wells	78	53	4	12	12	115	67	58.3
(incl. gov't)	98	—	—	—	—	135	87	64.4
Fort Norman	8	4	2	1	—	9	9	100.0
(incl. gov't)	24	4	—	—	—	28	25	89.3
Wrigley (incl. gov't)	12	—	—	—	—	12	10	83.3
Fort Simpson	66	13	6	1	—	72	66	91.7
(incl. gov't)	105	13	6	1	—	111	100	90.1

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Copies of these reports can be obtained by contacting Sheila Meldrum, Department of Indian Affairs and Northern Development, Ottawa, K1A OH4.